

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims:

1. (Currently amended) A computer system having a processor configured for component-based processing, said system comprising:

a component specification element that specifies components, wherein the components are reusable components;

a control flow specification element that specifies control flows;

a data flow specification element that specifies data flows;

a resource specification element that specifies resources; and

a quality of service specification derivation element, the quality of service specification derivation element having for output an application model in combination with a quality of service specification derived by implication from relations between the components, the control flows, the data flows and the resources;

wherein the quality of service specification derivation element tests the components and the relations between the components to derive the quality of service specification;

and wherein said quality of service specification is made available to a runtime engine for deployment as a runtime contract in a runtime processing environment.

2. (Original) A computer system as claimed in claim 1, further comprising a runtime engine for deploying said runtime contract.

3. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a messaging requirement contract.

4. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a transactionality requirement contract.

5. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a security requirement contract.

6. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a recoverability requirement contract.
7. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a completion requirement contract.
8. (Original) A computer system as claimed in claim 7, wherein said runtime contract comprises a completion requirement contract specifying transactional behavior.
9. (Original) A computer system as claimed in claim 7, wherein said runtime contract comprises a completion requirement contract specifying compensation behavior.
10. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises at least one of a reliability, availability and serviceability requirement contract.
11. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a quality of delivery requirement contract.
12. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises at least one of a priority requirement and a response goal requirement contract.
13. (Original) A computer system as claimed in claim 1, wherein said runtime contract comprises a performance requirement contract.
14. (Original) A computer system as claimed in claim 1, wherein said quality of service specification is stored in a repository.
15. (Original) A computer system as claimed in claim 1, wherein said quality of service specification is stored in a tagged markup language.

16. (Original) A computer system as claimed in claim 15, wherein said tagged markup language is XML.

17. (Original) A computer system as claimed in claim 1, wherein said quality of service specification is stored in a modeling language.

18. (Currently amended) A method for component-based processing, said method comprising the steps of:

specifying [[a]] components, wherein the components are reusable components;

specifying [[a]] control flows;

specifying [[a]] data flows;

specifying [[a]] resources; and

deriving a quality of service specification by implication from relations between the components, the control flows, the data flows and the resources;

wherein a quality of service specification derivation element is employed to test the components and the relations between the components to derive the quality of service specification;

and wherein said quality of service specification is made available to a runtime engine for deployment as a runtime contract in a runtime processing environment.

19. (Original) A method as claimed in claim 18, further comprising the step of deploying said runtime contract by a runtime engine.

20. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a transactionality requirement contract.

21. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a security requirement contract.

22. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a recoverability requirement contract.
23. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a completion requirement contract.
24. (Original) A method as claimed in claim 23, wherein said runtime contract comprises a completion requirement contract specifying transactional behavior.
25. (Original) A method as claimed in claim 23, wherein said runtime contract comprises a completion requirement contract specifying compensation behavior.
26. (Original) A method as claimed in claim 18, wherein said runtime contract comprises at least one of a reliability, availability and serviceability requirement contract.
27. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a quality of delivery requirement contract.
28. (Original) A method as claimed in claim 18, wherein said runtime contract comprises at least one of a priority requirement and a response goal requirement contract.
29. (Original) A method as claimed in claim 18, wherein said runtime contract comprises a performance requirement contract.
30. (Original) A method as claimed in claim 18, wherein said quality of service specification is stored in a repository.
31. (Original) A method as claimed in claim 18, wherein said quality of service specification is stored in a tagged markup language.
32. (Original) A method as claimed in claim 31, wherein said tagged markup language is XML.

33. (Original) A method as claimed in claim 18, wherein said quality of service specification is stored in a modeling language.

34. (Currently amended) A computer program product comprising computer program code on a computer readable storage medium to, when loaded and executed on a computer, cause said computer to perform the steps of: ~~a method as claimed in claim 18.~~

specifying components, wherein the components are reusable components;

specifying control flows;

specifying data flows;

specifying resources; and

deriving a quality of service specification by implication from relations between the components, the control flows, the data flows and the resources;

wherein a quality of service specification derivation element is employed to test the components and the relations between the components to derive the quality of service specification;

and wherein said quality of service specification is made available to a runtime engine for deployment as a runtime contract in a runtime processing environment.

35. (Currently amended) ~~[[A]] The computer program product of claim 34 further comprising additional computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the step[[s]] of: a method as claimed in claim 19.~~

deploying said runtime contract using a runtime engine.

36. (Currently amended) ~~[[A]] The computer program product of claim 34, wherein said runtime contract comprises a transactionality requirement contract, comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 20.~~

37. (Currently amended) [[A]] The computer program product of claim 34, wherein said runtime contract comprises a security requirement contract. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 21.~~

38. (Currently amended) [[A]] The computer program product of claim 34, wherein said runtime contract comprises a recoverability requirement contract. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 22.~~

39. (Currently amended) [[A]] The computer program product of claim 34, wherein said runtime contract comprises a completion requirement contract. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 23.~~

40. (Currently amended) [[A]] The computer program product of claim 39, wherein said completion requirement contract specifies transactional behavior. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 24.~~

41. (Currently amended) [[A]] The computer program product of claim 39, wherein said completion requirement contract specifies compensation behavior. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 25.~~

42. (Currently amended) [[A]] The computer program product of claim 34, wherein said runtime contract comprises at least one of a reliability, availability, and serviceability contract. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 26.~~

43. (Currently amended) [[A]] The computer program product of claim 34, wherein said runtime contract comprises a quality of delivery requirement contract. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 27.~~

44. (Currently amended) [[A]] The computer program product of claim 34, wherein said runtime contract comprises at least one of a priority requirement and a response goal requirement contract. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 28.~~

45. (Currently amended) [[A]] The computer program product of claim 34, wherein said runtime contract comprises a performance requirement contract. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 29.~~

46. (Currently amended) [[A]] The computer program product of claim 34, wherein said quality of service specification is stored in a repository. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 30.~~

47. (Currently amended) [[A]] The computer program product of claim 34, wherein said quality of service specification is stored in a tagged markup language. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 31.~~

48. (Currently amended) [[A]] The computer program product of claim 47, wherein said tagged markup language is XML. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 32.~~

49. (Currently amended) [[A]] The computer program product of claim 34, wherein said quality of service specification is stored in a modeling language. ~~comprising computer program code on a computer readable medium to, when loaded and executed on a computer, cause said computer to perform the steps of a method as claimed in claim 33.~~